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RUEHBO/AMEMBASSY BOGOTA 1338
RUEHPE/AMEMBASSY LIMA 0928
RUEHAC/AMEMBASSY ASUNCION 2475
RUEHMN/AMEMBASSY MONTEVIDEO 1889
RUEHSG/AMEMBASSY SANTIAGO 1636
RUEHLP/AMEMBASSY LA PAZ 2680
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TAGS: [OREP](#) [PGOV](#) [PREL](#) [EAGR](#) [ECON](#) [ENRG](#) [BR](#)
SUBJECT: VISIT OF CODEL GRASSLEY TO SAO PAULO: ETHANOL AND
FLEXFUEL-ENGINE AUTOMOBILES

REF: (A) RECIFE 40; (B) BRASILIA 498

SUMMARY

11. Senator Charles Grassley (IA) - Chairman of the Senate Finance Committee - and his delegation visited Maringa, Parana state and Sao Paulo, March 22-23. Other members of the delegation included Senators Crapo (ID) and Allard (CO); Representatives Peterson (MN), English (PA), King (IA), Issa (CA), and Carnahan (MO); and Assistant U.S. Trade Representative for the Americas Everett Eissenstat. In Maringa the delegation toured a sugar mill and ethanol plant. In Sao Paulo they met with the leadership of the Federation of Industries of Sao Paulo State (FIESP) and the American Chamber of Commerce (AMCHAM), and visited a General Motors facility where they learned about the manufacture and operation of FlexFuel-engine automobiles. This cable addresses the delegation's visit to the sugar mill, ethanol plant and the automobile factory, and discussions concerning ethanol and FlexFuel-engine automobiles. The trade aspects of the visit, and Rep. Issa's separate meeting with the Brazilian-Lebanese community, will be reported septels. End Summary.

VISIT TO A SUGAR MILL AND ETHANOL PLANT

12. On March 22, CODEL Grassley traveled to Maringa, Parana state to visit the Vale do Ivaí sugar mill and ethanol plant. The group learned about the mill's operations as well as its business activities, including partnerships in port facilities and a trading company focused on ethanol and sugar exports. Mark Lyons, managing director of Vale do Ivaí's American joint venture partner Alltech,

described Alltech's activities in Sao Pedro do Ivai.

13. The CODEL took a walking tour of the crushing facilities, distilleries and Alltech's new yeast fermentation facility. Delegation members asked a broad range of questions on such topics as production costs and productivity for sugar and ethanol, use of ethanol in the Brazilian fuels matrix, agricultural production techniques in southern Brazil, and environmental controls in plant operations. After the tour, the delegation, along with the Mayor of Sao Pedro do Ivai, the President and Superintendent of the Parana Sugar and Alcohol Producers' Association, and the Director of Cocamar, a major agricultural cooperative in the region, attended a lunch hosted by the mill.

CONVERSATIONS ON ETHANOL AT THE AMCHAM BREAKFAST

14. During a discussion of trade issues (septel) at the delegation's breakfast meeting at AMCHA, Board Member Joseph Tutundjian suggested that ongress consider forming a U.S.-Brazil Ethanol Cucus as a symbolic gesture with the possibility of aking substantive progress on an issue importantto both sides. This suggestion led to a broaderdiscussion of ethanol. One immediate problem isthat demand is rapidly outstripping supply, drivin prices up. Both countries need to prioritize exanding their production facilities to satisfy grwing demand. In Brazil's case, according to theAMCHAM members, there is a shortage of the invesment capital needed to expand the capacity of refieries. Impediments to investment cited by AMCHAM embers include the high cost of capital in Brazi, caused in part by an extremely high tax burden particularly on industrial production; the burden placed on

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American companies investing and operating in Brazil by the Sarbanes-Oxley Act; and inefficient infrastructure, especially the high cost of transportation and inefficient port facilities.

GENERAL MOTORS - FOCUSING ON EMERGING MARKETS

15. CODEL Grassley next visited General Motors do Brasil (GMB) in Sao Caetano do Sul (greater Sao Paulo). GMB President Ray G. Young greeted the delegation and gave an overview of the company's history, followed by a presentation on GMB's experience with FlexFuel (engine systems that run on gasoline, ethanol, or any mix of the two fuels). Young pointed to GMB's extensive experience in the Brazilian market - the company has been operating in Brazil since 1925. Currently, 90 percent of GMB's product is produced locally because Brazil's high tariffs on automobiles (35 percent) discourage imports. GM believes in the BRIC moniker (identifying the key emerging markets as Brazil, Russia, India, and China) and is currently focused on operations in these key markets. Brazil has been a particularly successful market for GMB, precisely because it is so closed to imports. Accordingly, GMB engineers its cars specifically for the Brazilian market, and several of the models produced here are exclusive to Brazil. Because Brazil is still a relatively low-income economy, the key consumer factors in Brazilian auto sales are low price and high resale value - two factors that would later come into play with FlexFuel popularity.

THE RISE AND FALL OF ETHANOL

16. GMB has over thirty years of experience with ethanol as an automobile fuel. During the 1970s oil crisis, the GoB began to regulate gasoline usage. In 1976, the GoB banned the use of gasoline in auto races. Race-car engine manufacturers switched to ethanol to use in Brazil's popular Formula 1 races. The racetrack proved a useful testing ground for the technology, and in 1978 when the GoB mandated that all government fleets be run on alternative fuels, GMB stepped in with its ethanol engine technology. Mass ethanol engine production began in earnest in 1979, the year that the GoB began to offer attractive tax incentives for purchasers of

alternative fuel cars. Throughout the early 1980s, ethanol technology flourished and consumer demand rose dramatically. By 1986, ethanol-burning cars accounted for 90 percent of Brazilian automobile production. The ethanol heyday was short-lived, however.

In 1988-89, sugar prices rose sharply. From one day to the next, ethanol was no longer a cost-competitive fuel. As a result, thousands of Brazilian consumers who had purchased ethanol cars lost their investments and Brazilians generally lost confidence in alternative fuel technologies.

----- THE EMERGENCE OF FLEXFUEL -----

¶7. It wasn't until 1992 that GMB began to run its first FlexFuel studies. Brazilian consumers felt burned by their experience with ethanol engines in the 1980s. GMB, however, still believed in ethanol technology and sought to develop an engine that could serve as a hedge against fuel price fluctuations. FlexFuel engines were developed with this goal in mind, with flexible fuel usage, meaning that the engines can run on gasoline, ethanol, or any combination of the two fuels. The FlexFuel engine system has a fuel sensor that continually monitors the mix of ethanol and gasoline in the tank and instructs the engine to alter performance based on the fuel mix.

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When burning ethanol, for example, pistons need a higher compression ratio, and the fuel sensor instructs the engine to adjust accordingly. The first FlexFuel concept car was built in 1995, and mass production for the consumer market began in 1999.

----- FLEXFUEL MANIA -----

¶8. In 2004, demand for cars with FlexFuel engines began to soar. Because of widespread ethanol use in the 1980s, Brazilian gas stations were still ethanol-capable. Moreover, ethanol distribution networks were still in place. In 2004-05, with ethanol prices half those of gasoline, owners found that their cars were not only cheaper to operate, but that their resale value was at an all-time high. These two factors drove FlexFuel production to higher-than-anticipated levels. Industry estimates in 2003 placed FlexFuel market saturation at 80 percent by 2008. FlexFuel's popularity, however, shattered these estimates, and by 2005 FlexFuel cars accounted for 90 percent of Brazilian new car production. In 2005, GMB's flagship Sao Caetano do Sul plant was 100 percent FlexFuel production, and overall GMB production was 98 percent FlexFuel. All major automotive companies operating in Brazil - Ford, Fiat, Renault, Volkswagen - were producing cars with FlexFuel engines. By all measures, FlexFuel was a hit. Brazil began to draw international attention and kudos for its widespread use of alternative fuel technology.

----- FLEXFUEL CHALLENGES -----

¶9. FUEL QUALITY - Despite FlexFuel's success, the technology is not without its challenges. One concern is low fuel quality. GMB reports that Brazilian gas stations frequently dilute their fuel (gasoline and ethanol) with water. This can confuse the internal sensor mechanism in the FlexFuel engine and compromise fuel efficiency. Currently, GMB is campaigning against this practice at the fuel distributor level and working to re-engineer the sensor system to detect water in the fuel mix.

¶10. RISING ETHANOL PRICES - Another concern is the recent increase in the price of ethanol over the first few months of 2006. The popularity of FlexFuel cars and the increasing price of sugar on the international market have constricted ethanol supply in Brazil's internal market and have consequently driven up ethanol prices. Brazil is at the tail end of the 2005 sugar harvest season and is just beginning to process last year's sugar yield. Thus, domestic ethanol supply may pick back up in a few months. In addition to ethanol's higher price, the fuel is also less efficient than

gasoline. Although it increases an engine's horsepower by 2 to 5 horses, ethanol offers fewer miles per gallon than gasoline.

¶11. ETHANOL'S BREAK-EVEN POINT - The break-even point for choosing ethanol over gasoline is 70 percent. This means that as long as the price of ethanol is 70 percent of the price of gasoline at the pump or less, it is more economical for consumers to fill-up with ethanol. If the price of ethanol exceeds 70 percent of that of gasoline, then gasoline is the better choice. Ethanol's 70 percent benchmark represents a trade-off between price and efficiency. In Sao Paulo, the biggest FlexFuel and ethanol market, the price of ethanol is currently 71 percent of that of gasoline, so right now it is more cost-effective for FlexFuel car owners to buy gasoline. If the price of ethanol remains over 70 percent for a long period of time, this may suppress demand for FlexFuel cars.

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¶12. A SILVER LINING - Overall, GMB believes that the spike in ethanol prices can be positive, because it shows the consumer the flexibility of FlexFuel technology. There is no loss to consumers if the price of ethanol spikes - they can simply switch to gasoline. GMB hopes this will go a long way towards restoring consumer confidence in alternative fuels, a confidence that has been lagging since the ethanol spike of the late 1980s.

COMMENT

¶13. Brazil's successful ethanol fuel model has generated great interest in the United States and throughout the world. FlexFuel technology appears to have solved the problem of gasoline price fluctuations. The main constraints to even greater internal use and exports are problems in expanding the supply of ethanol quickly enough. End Comment.

¶14. This cable was coordinated/cleared with Embassy Brasilia and with Senator Grassley's office.

MCMULLEN